



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.      | CONFIRMATION NO. |
|--|-------------|----------------------|--------------------------|------------------|
| 09/998,601   | 11/16/2001  | Yukihiko Okumura     | 3815/144                 | 6209             |
| 22913  | 7590        | 09/09/2005           |                          |                  |
| WORKMAN NYDEGGER<br>(F/K/A WORKMAN NYDEGGER & SEELEY)<br>60 EAST SOUTH TEMPLE<br>1000 EAGLE GATE TOWER<br>SALT LAKE CITY, UT 84111 |             |                      | EXAMINER<br>WONG, WARNER |                  |
|  |             |                      | ART UNIT<br>2661         | PAPER NUMBER     |

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/998,601 | <b>Applicant(s)</b><br>OKUMURA, YUKIHIKO |  |
|                              | <b>Examiner</b><br>Warner Wong       | <b>Art Unit</b><br>2661                  |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 November 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-10 is/are allowed.
- 6) ☒ Claim(s) 1-5, 11-15 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/15/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 6 is objected to because of the following informalities: the range of transmission data "1 to X bits" is further limited in a subsequent claim limitation phrase "(X,Y)=(8,8),(244,12),(4080,16), and (1048576,24)". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 2, 11-13 recite the limitation "transmitting the generated frame data" in (claim 1: p.55, line 17), (claim 2: p.56, line 24), (claim 11: p.64, line 14), (claim 12: p.65, line 22) and (claim 13: p.67, line 3), where multiple prior references of "frame data" are cited in (claim 1: p.55, lines 10-13), (claim 2: p.56, lines 17-22), (claim 11: p.64, lines 7-11), (claim 12: p.65, lines 15-20) and (claim 13, p.66, lines 23-27) respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the channel" in line 14 of phrase "if the frame contains the transmission data for the channel", where multiple references of "channels" are cited in lines 5-13. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 4/1, 5/1, 11, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Okumura (5,896,374).

Regarding claim 1, 11, 13 and 14, Okumura describes a data transmission method/system with transceiver and receiver for placing variable length transmission data into fixed time length transmitting frames (col. 14, lines 58-60). On the transmitting side, the method calculates an error-detecting code of the transmission data in the frame, generates and transmits frame data containing transmission data and error-detecting code (col. 13, lines 48-50).

On the receiving side, the method receives (determines) the transmission data and error detecting code by determining a (predetermined) end/final bit position of transmitted data (col. 5, 26-37), calculates an error detecting code from the transmission data, and decides whether or not the frame contains the correct transmission data or error, depending whether if the received error detecting code matches the error detecting code calculated based on determined transmission data (col. 15, lines 9-31).

The frame data without transmission data and the error-detecting code is considered as null/nothing, hence nothing is transmitted/received.

Regarding claim 4/1, Okumura describes the transmitting side conducting error-correcting coding to the transmitting frame and interleaving the frame afterwards, as well as the receiving side conducting deinterleaving of the receiving frame and error-correcting coding the frame afterwards (col. 13, lines 64-65; col. 14, lines 65-67; col. 15, lines 1-10).

Regarding claim 5/1, Okumura describes the transmitting side calculates the transmission rate information indicating the number of bits of the transmission data in each frame and generating frame data containing the calculated transmission rate information (col. 16, lines 11-13).

6. Claims 2, 3/2, 4/2, 5/2, 12 and 15 are rejected under 35 U.S.C. 102(a) as being anticipated by Okumura (EP1107499A1).

Regarding claims 2, 12 and 15, Okumura describes a data transmission method/system with transmitter and receiver for placing variable length transmission data into fixed time length transmitting frames (paragraph 15). On the transmitting side, the method calculates an error-detecting code of the transmission data in the frame, generates and transmits frame data containing transmission data and error-detecting code (paragraph 88).

The frame data without transmission data and the error-detecting code is considered as null/nothing, hence nothing is needed to be transmitted.

On the receiving side, the method assumes the frames and final bit positions for the transmission data, calculates an error detecting code from the transmission data, decides whether or not the frame contains the correct transmission data or error, depending whether if the received error detecting code matches the error detecting code calculated based on determined transmission data, and acquire (obtain) the transmission data (paragraph 99).

Regarding claim 3/2, Okumura describes the transmitting frame data generation where the error detecting code is place after the corresponding transmission data and the bits of the error detecting code are arranged in the order that is the reverse of the transmission data bit order (paragraph 89).

Regarding claim 4/2, Okumura describes the transmitting side conducting error-correcting coding to the transmitting frame and interleaving the frame afterwards, as well as the receiving side conducting deinterleaving of the receiving frame and error-correcting coding the frame afterwards (paragraph 89,92,96-97).

Regarding claim 5/2, Okumura describes the transmitting side calculates the transmission rate information indicating the number of bits of the transmission data in each frame and generating frame data containing the calculated transmission rate information (paragraph 120).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2661

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 3/1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura ('374) in view of Okumura (EP1107499A1).

Okumura ('374) fails to describe the transmitting frame data generation where the error detecting code is placed after the corresponding transmission data and the bits of the error detecting code are arranged in the order that is the reverse of the transmission data bit order.

Okumura ('499A1) exactly describes the transmitting frame data generation where the error detecting code is placed after the corresponding transmission data and the bits of the error detecting code are arranged in the order that is the reverse of the transmission data bit order (Okumura '499A1, paragraph 89).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to use the data layout method of Okumura ('499A1) in conjunction with the transmission method of Okumura ('374) since the layout method complements the transmission method and the data format has the advantage of reducing incorrect rate detection plus elimination of data buffers (Okumura '499A1, abstract).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura ('374).

Okumura generally describes the transmission frame with transmission data 'X' and CRC (error detecting code) 'Y', but fails to further describe the combinational frame bits (X,Y) having values equaling (8,8), (244,12), (4080, 16) or (1048576, 24).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to use deploy error detecting code 'Y' of differing lengths for the variable length transmission data ('X'), which encompasses the combinational frame bits (X,Y) having values equaling (8,8), (244,12), (4080, 16) or (1048576, 24).

***Allowable Subject Matter***

10. Claims 7-10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

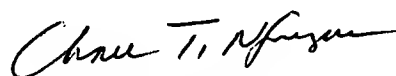
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Warner Wong whose telephone number is 571-272-8197. The examiner can normally be reached on 6:00AM - 3:00PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Warner Wong      WW  
Examiner  
Art Unit 2661



CHAU NGUYEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600